

## WHAT IS CLAIMED IS:

1 1. A method of fabricating an image sensor, comprising:  
2 forming a bottom antireflection coating over an exposed surface of an active  
3 image sensing device structure;  
4 forming a color filter array on the bottom antireflection coating; and  
5 substantially removing exposed portions of the bottom antireflection coating.

1 2. The method of claim 1, wherein the bottom antireflection coating  
2 comprises a dyed organic film-forming material.

1 3. The method of claim 1, wherein the bottom antireflection coating  
2 comprises a light-absorbing polymeric film-forming material.

1 4. The method of claim 1, wherein the bottom antireflection coating has a  
2 thickness selected to improve an optical transmission characteristic of one or more  
3 colors of the color filter array.

1 5. The method of claim 1, wherein the bottom antireflection coating is  
2 substantially transmissive to radiation in a wavelength range of about 400 nm to  
3 about 700 nm.

1 6. The method of claim 1, wherein the color filter array comprises a  
2 plurality of colored photoresist structures.

1 7. The method of claim 1, wherein exposed portions of the bottom  
2 antireflection coating are removed substantially by a plasma etch process.

1 8. The method of claim 7, wherein the plasma etch process is a low-  
2 power buffered oxygen ash process.

1 9. The method of claim 7, wherein the plasma etch process removes the  
2 bottom antireflection coating at a substantially higher etch rate than the color filter  
3 array.

10. The method of claim 1, wherein the bottom antireflection coating forms a substantially continuous layer over the exposed surface of the active image sensing device structure before exposed portions of the bottom antireflection coating are substantially removed.

11. The method of claim 1, wherein the bottom antireflection coating forms a protective barrier over metal structures at the exposed surface of the active image sensing device structure during formation of the color filter array.

12. The method of claim 1, wherein the active image sensor device structure comprises a complementary metal-oxide-semiconductor (CMOS) image sensor.

13. An image sensor system, comprising:  
an active image sensing device structure;  
a color filter array; and  
a bottom antireflection coating disposed between the color filter array and a surface of the active image sensing device structure.

14. The system of claim 13, wherein the bottom antireflection coating comprises a dyed organic film-forming material.

15. The system of claim 13, wherein the bottom antireflection coating comprises a light-absorbing polymeric film-forming material.

16. The system of claim 13, wherein the bottom antireflection coating has a thickness selected to improve an optical transmission characteristic of one or more colors of the color filter array.

17. The system of claim 13, wherein the bottom antireflection coating is substantially transmissive to radiation in a wavelength range of about 400 nm to about 700 nm.

1           18.    The system of claim 13, wherein the color filter array comprises a  
2   plurality of colored photoresist structures.

1           19. The system of claim 13, wherein the bottom antireflection coating has a  
2   substantially higher plasma etch rate than the color filter array.

1           20.    The system of claim 13, wherein the active image sensor device  
2   structure comprises a complementary metal-oxide-semiconductor (CMOS) image  
3   sensor.

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